a4 concl'd.

2. (Amended) A machine according to claim 1, wherein the pole pieces and the magnets are configured so as to minimize the difference L_d - L_q where L_d is inductance on a forward axis and L_q is inductance on a quadrature axis.

3. (Amended) A machine according to claim 1, wherein the teeth are of non-constant width, increasing in width with increasing distance from the rotor starting from a determined distance from their free ends.

4. (Amended) A machine according to claim 1, wherein the magnets are wedge-shaped when observed along an axis of rotation of the rotor, of width that tapers going away from the axis of rotation of the rotor.

5. (Amended) A machine according to claim 1, wherein the pole pieces have cutouts and are engaged via said cutouts on splines on a shaft of the rotor.

a5

7. (Amended) A machine according to claim 6, wherein the splines and the central portion of the shaft are made of a non-magnetic material.

8. (Amended) A machine according to claim 5, wherein the pole pieces have radially inner edges and gaps are left between said radially inner edges and the shaft.

9. (Amended) A machine according to claim 5, wherein each spline presents a cross section having a profile having opposite sides with inclined portions at an angle to a radius passing through a middle of the spline.

10. (Amended) A machine according to claim 9, wherein the angle is about 70°.

a6

13. (Amended) A machine according to claim 1, wherein each pole piece has, on a side facing towards the stator, a face that is non circular around an axis of rotation of the rotor and convex towards the stator.

14. (Amended) A machine according to claim 1, wherein the magnets have edges that are adjacent to the stator and the rotor has at least one, at one axial end, a cheek-plate of non-magnetic material, with a periphery of the check-plate being set back from said edges.

a6 cont'd.

15. (Amended) A machine according to claim 1, the stator having n_{teeth} teeth, the rotor having n_{pairs} pairs of poles, and the current having n_{phases} phases, wherein the number of teeth n_{teeth} satisfies $n_{teeth} = n_{pairs} * n_{phases}$.

16. (Amended) A machine according to claim 1, wherein the rotor is configured to rotate at a speed lying in the range 1000 rpm to 10,000 rpm.

17. (Amended) A machine according to claim 1, wherein the machine has an outside dimension in the radial direction that lies in the range 50 mm to 1 m.

18. (Amended) A machine according to claim 1, wherein the stator has individual coils each removably disposed on one tooth.

19. (Amended) A machine according to claim 1, wherein the stator has at least one individual coil comprising a plurality of superposed turns of a substantially flat bundle of insulated wires wound around a winding axis, the cross-section of the bundle having a long dimension that extends substantially perpendicularly to the winding axis.

a7

21. (Amended) A machine according to claim 19, wherein an inside section of the coil perpendicular to the winding axis is substantially rectangular.

22. (Amended) A machine according to claim 19, wherein an inside section of the coil perpendicular to the winding axis is larger on one side than on the other, and the stator comprises a tooth presenting a complementary profile.

23. (Amended) A machine according to claim 19, wherein the wires are curved to form hooks at the electrical connection ends of the coil.

a8

25. (Amended) A machine according to claim 19, wherein the coil has, perpendicular to the winding axis, an inside section longer than an axial dimension of the tooth on which the coil is engaged, and a detector suitable for delivering a signal representative of rotation of the rotor being engaged in a gap formed between an inside face of the coil and a face of the tooth.

a8 cond'd

26. (Amended) A machine according to claim 1, having at least one detector comprising a magnetic field sensor mounted on the stator in such a manner as to detect the magnetic field of the magnets of the rotor from a location that overlaps a peripheral region of the rotor when the machine is observed on an axis of rotation of the rotor.

a9

28. (Amended) A machine according to claim 26, wherein the at least one detector is fixed to the stator so as to extend along a radial axis of a tooth.

29. (Amended) A machine according to claim 26, wherein the at least one detector further comprises a temperature sensor.

30. (Amended) A machine according to claim 1, wherein the rotor has at least one cheek-plate of non-magnetic material, with a radially outer edge of said cheek-plate being set back from a radially outer edge of the magnets and the pole pieces, so as to leave an annular region in which a magnetic field of the magnets can be read by at least one detector.

31. (Amended) A machine according to claim 1, having individual coils with connection ends formed by respective flat bundles of wires curved to form respective hook shapes, said connection ends being soldered to locally stripped portions of sheathed electric cables.

32. (Amended) A machine according to claim 1, wherein the the stator comprises an assembly of sectors defining air-gaps intersecting the teeth at half-width.

33. (Amended) A machine according to claim 32, wherein the sectors have co-operating portions in relief on docking sides.

34. (Amended) A machine according to claim 1, wherein the stator comprises a magnetic circuit inserted by force into a cylindrical case.

Please add new claims 36-42 as follows:

a10

--36. A machine according to claim 7, wherein the non-magnetic material is aluminum.--

--37. A machine according to claim 1, wherein the rotor is outside the stator.--

--38. A machine according to claim 1, wherein the rotor is inside the stator.--

--39. A rotary electric machine comprising:

a flux concentrating rotor; and

a stator comprising:

teeth, each tooth comprising two non-parallel opposite planar faces; and

a concentrated winding.--

--40. A rotary electric machine comprising:

a flux concentrating rotor; and

a stator comprising:

a concentrated winding; and

at least one detector comprising a magnetic field sensor to detect a magnetic field of the magnets of the rotor from a location that overlaps a peripheral region of the rotor when the machine is observed on an axis of rotation of the rotor.--

--41. A rotary electric machine comprising:

a flux concentrating rotor; and

a stator comprising a concentrated winding, said concentrated winding comprising at least one individual coil comprising a plurality of superposed turns of a substantially flat bundle of insulated wires wound around a winding axis, in such a manner that a cross-section of the bundle has a long dimension that extends substantially perpendicularly to the winding axis.--